



## Alphaboxes

- Ask each individual or pair to write down, for each letter of the alphabet, a word that's related to the topic of study.
- BEFORE
- REVIEW

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>
<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>
<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b> <b>Y</b>	<b>Z</b>

Name		Topic		
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>
<b>K</b>	<b>L</b>	<b>M</b>	<b>N</b>	<b>O</b>
<b>P</b>	<b>Q</b>	<b>R</b>	<b>S</b>	<b>T</b>
<b>U</b>	<b>V</b>	<b>W</b>	<b>X</b> <b>Y</b>	<b>Z</b>

**Six Brain Science Principles:** Certain ways of *learning*, meaning to be able to remember and use information, trump other ways of learning.

**1. Shorter trumps longer!**

The human brain learns best when content is divided into smaller sections and when facts are chunked into larger concepts or information is segmented.

book: John Medina: "The way to make long-term memory more reliable is to incorporate new information gradually and repeat it in timed intervals" (*Brain Rules*, p. 147).

**2. Writing trumps reading!**

Writing is a whole-brain task – it's almost impossible to

write about one thing and talk about

something else at the same time. Writing is multi-sensory

– kinesthetic, visual-spatial, and tactile. Learners cognitively reviewing information a second time when they write it after hearing and/or seeing it.

book: Jay Cross: "Taking notes is a valuable form of processing information... known to increase the likelihood of learning and remembering material" (*Informal Learning*, p. 78).

**3. Images <sup>Pictures</sup> trump words!**

The human brain remembers pictures better than words.

book: Patricia Wolfe: "The capacity for long-term memory of pictures seems almost unlimited" (*Brain Matters*, p. 153).

Stories engage all parts of the brain because they touch on the learner's experiences, feelings, and actions. Sousa, p. 145; Schank; Scott-Simmons, Barker, & Cherry

**4. Speaking trumps listening!**

When learners verbalize what they've heard or seen, they

process the information three times: first, by listening to or viewing

it; second, by thinking about it; and third, by restating

it using their own words or repeating the words of others.

book: Jay Cross: "Learning is social. We learn from, by, and with other people" (*Informal Learning*, p. 63).

book: Patricia Wolfe: "The best way to learn something is to teach it" (*Brain Matters*, p. 185).

\* book to read to begin to research brain research

make teachers try this.

(ex: what did you have for dinner last n ?)

storytelling  
- experience  
- feeling  
- action

why do we still try to prevent our kids from socializing



- put your finger on it and show it to your shoulder partner  
 - repeat after me... "I am not going to write any words in this box... I am only going to draw pictures in this box"

Hogs vs. Logs  
 (you are widening this gap)  
 are your kids rooting for each others successes or failures

## 5. Standing trumps sitting!

Sitting for extended lengths of time makes thinking and learning more difficult to do because the oxygen levels in the body decrease. Movement - any kind of motion - increases oxygen to the brain, thereby giving the brain a cognitive boost.

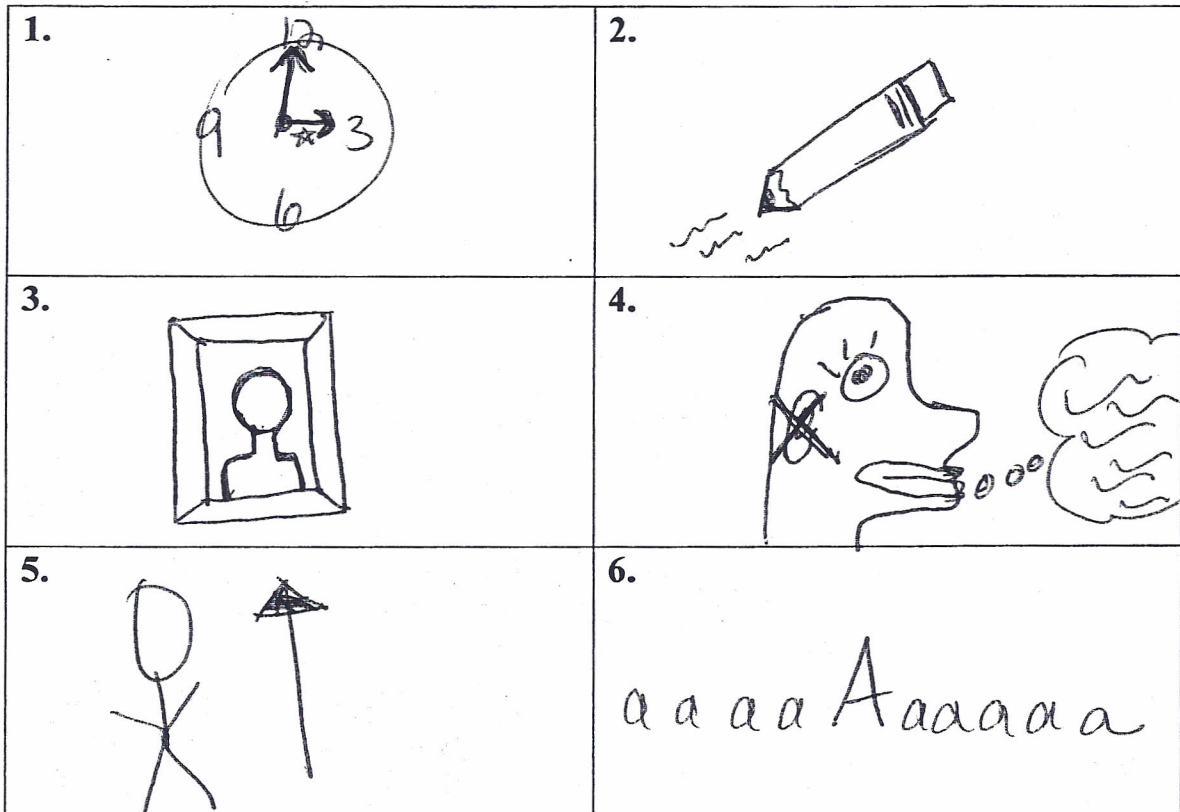
deep breath  
 exercises

Standing speeds up information processing 5 - 20 % compared to sitting down.

## 6. Different trumps same!

The human brain is hardwired to notice changes in the learning environment and to ignore sensory data that remains predictable or the same over time. Eric Jensen: "Any stimuli introduced into our immediate environment, which is either new (novel) or of sufficiently strong emotional intensity (high contrast), will immediately gain our attention" (*Brain-Based Learning*, p. 122).

## Window Panes



new images

introduce a "class critter"  
along w/ monthly home  
move critter around the room  
each day / have warm up? under it  
move the critter around each day  
... they have to FIND their  
question of the day ...  
like off on the shelf.